

Shigeki TAMAI
Serial No. 09/472,816

IN THE CLAIMS

Please cancel claims 1-3, 5 and 7 without prejudice or disclaimer.

Please amend claims 10, 14, and 16 as follows:

1. (CANCELLED)
2. (CANCELLED)
3. (CANCELLED)
4. (PREVIOUSLY PRESENTED) A liquid-crystal-panel driver integrated circuit (IC) package comprising:
 - an insulative base;
 - a liquid-crystal-panel driver IC mounted on the insulative base;
 - output leads which are provided on the insulative base on one side of the liquid-crystal-panel driver IC, and which are connected to the liquid-crystal-panel driver IC; and
 - input leads which are provided on the insulative base on the other side of the liquid-crystal-panel driver IC, and which are connected to the liquid-crystal-panel driver IC, the input leads comprising first input leads and second input leads which are respectively provided on the insulative base so as to extend bilaterally outwardly generally perpendicularly to a direction in which the output leads extend from the liquid-crystal-panel driver IC,
 - a bending slit is provided on part of the insulative base where the output leads are provided such that the output leads remain in the bending slit,
 - connecting slits which are respectively provided on parts of the insulative base where the first and second input leads are provided, respectively, such that the first and second input leads are exposed in the connecting slits.

Shigeki TAMAI
Serial No. 09/472,816

5. (CANCELLED)

6. (ORIGINAL) The liquid-crystal-panel driver IC package according to Claim 4, wherein the liquid-crystal-panel driver IC has two identical-signal terminals to which the first and second input leads are connected, respectively, and

the two identical-signal terminals are electrically connected to each other within the liquid-crystal-panel driver IC.

7. (CANCELLED)

8. (PREVIOUSLY PRESENTED) A liquid crystal panel module in which the liquid-crystal-panel driver integrated circuit (IC) packages as defined in Claim 1 are assembled so as to make an array, the liquid crystal panel module comprising:

a first glass substrate and a second glass substrate laminated together with a specified spacing so as to seal liquid crystals therebetween, and to form, on at least one edge side of the first, second glass substrates, a step region for setting therein the liquid-crystal-panel driver IC packages in which each insulative base is bent at the bending slit and folded;

liquid-crystal driving wiring which is provided in the step region of the first, second glass substrates, and to which the output leads of the individual liquid-crystal-panel driver IC packages disposed so as to be arrayed along the step region are electrically connected; and

a connection board which has connecting lines serving for connecting the input leads of each liquid-crystal-panel driver IC package to each other, and which is disposed on each liquid-crystal-panel driver IC package.

9. (PREVIOUSLY PRESENTED) The liquid crystal panel module in which the liquid-crystal-panel driver integrated circuit (IC) packages as defined in Claim 4 are assembled so as to make an array, the liquid crystal panel module comprising:

Shigeki TAMAI
Serial No. 09/472,816

a first glass substrate and a second glass substrate laminated together with a specified spacing so as to seal liquid crystals therebetween, and to form, on at least one edge side of the first, second glass substrates, a step region for setting therein the liquid-crystal-panel driver IC packages in which each insulative base is bent at the bending slit and folded; and

liquid-crystal driving wiring which is provided in the step region of the first, second glass substrates, and to which the output leads of the individual liquid-crystal-panel driver IC packages disposed so as to be arrayed along the step region are electrically connected, wherein

the connecting slits of mutually adjoining liquid-crystal-panel driver IC packages are superimposed on each other so that the first input leads and second input leads of the liquid-crystal-panel driver IC packages are electrically connected to each other at the connecting slits.

10. (Currently Amended) A liquid crystal panel module comprising:

plural liquid-crystal-panel driver integrated circuit (IC) packages assembled so as to make an array, each package comprising;

an insulative base;

a liquid-crystal-panel driver IC mounted on the insulative base;

output leads which are provided on the insulative base on one side of the liquid-crystal-panel driver IC, and which are connected to the liquid-crystal-panel driver IC;

input leads which are provided on the insulative base on the other side of the liquid-crystal-panel driver IC, and which are connected to the liquid-crystal-panel driver IC;

wherein a bending slit is provided on part of the insulative base and wherein portions of the output leads extend into an aperture formed by the bending slit;

wherein the input leads are first input leads and second input leads which are respectively provided on the insulative base so as to extend bilaterally outwardly generally perpendicularly to a direction in which the output leads extend from the liquid-crystal-panel driver IC;

Shigeki TAMAI
Serial No. 09/472,816

a connecting slit is provided on one part of the insulative base where the first input leads are provided such that the first input leads are exposed in the connecting slit; and
a resist-uncoated connecting portion is provided on the other part of the insulative base where the second input leads are provided;

~~the liquid crystal panel driver integrated circuit (IC) packages as defined in Claim 5 are assembled so as to make an array, the liquid crystal panel module comprising:~~

a first glass substrate and a second glass substrate laminated together with a specified spacing so as to seal liquid crystals therebetween, and to form, on at least one edge side of the first, second glass substrates, a step region for setting therein the liquid-crystal-panel driver IC packages in which each insulative base is bent at the bending slit and folded; and

liquid-crystal driving wiring which is provided in the step region of the first, second glass substrates, and to which the output leads of the individual liquid-crystal-panel driver IC packages disposed so as to be arrayed along the step region are electrically connected, wherein

the connecting slit and the resist-uncoated connecting portion of mutually adjoining liquid-crystal-panel driver IC packages are superimposed on each other so that the first input leads and second input leads of the liquid-crystal-panel driver IC packages are electrically connected to each other at the connecting slits and the resist-uncoated connecting portions.

11. (ORIGINAL) The liquid crystal panel module according to Claim 8, wherein
the liquid-crystal-panel driver IC packages are placed within the step region of the first, second glass substrates.

12. (PREVIOUSLY PRESENTED) A liquid crystal panel module comprising:
a first substrate;
a second substrate;
liquid crystals sealed between the first substrate and the second substrate;

Shigeki TAMAI
Serial No. 09/472,816

an edge of the first substrate protruding beyond the second substrate to form a step region of the first substrate;

wiring for driving the liquid crystals being provided in the step region;

plural driver integrated circuit (IC) packages situated in the step region, the plural packages each comprising:

an insulative base;

a driver integrated circuit (IC) mounted on the insulative base;

output leads which are provided on the insulative base and which are connected to the driver integrated circuit (IC);

a bending slit provided on part of the insulative base where the output leads are provided such that the output leads remain in the bending slit;

the insulative base being folded substantially one hundred eighty degrees at the bending slit into a folded configuration to define an upper base folded portion which overlies a lower base folded portion, the base in the folded configuration being oriented so that the driver integrated circuit (IC) is mounted on an upper surface of the upper base folded portion and so that the output leads extend on a lower surface of the lower base folded portion for contacting relation with the wiring in the step region.

13. (PREVIOUSLY PRESENTED) The apparatus of claim 12, further comprising:

input leads which are provided on the insulative base and which are connected to the driver integrated circuit (IC);

wherein in the folded configuration the input leads are situated on the upper surface of the upper base folded portion; and

an input connection board extends across the upper surfaces of the upper base folded portions of the insulative bases of the plural packages for supplying signals to the input leads of the plural packages.

14. (CURRENTLY AMENDED) ~~The apparatus of claim 12,~~ A liquid crystal panel module comprising:

Shigeki TAMAI
Serial No. 09/472,816

a first substrate;
a second substrate;
liquid crystals sealed between the first substrate and the second substrate;
an edge of the first substrate protruding beyond the second substrate to form a step region of the first substrate;
wiring for driving the liquid crystals being provided in the step region;
plural driver integrated circuit (IC) packages situated in the step region, the plural packages each comprising:
an insulative base;
a driver integrated circuit (IC) mounted on the insulative base;
output leads which are provided on the insulative base and which are connected to the driver integrated circuit (IC);
a bending slit provided on part of the insulative base where the output leads are provided such that the output leads remain in the bending slit;
the insulative base being folded substantially one hundred eighty degrees at the bending slit into a folded configuration to define an upper base folded portion which overlies a lower base folded portion, the base in the folded configuration being oriented so that the driver integrated circuit (IC) is mounted on an upper surface of the upper base folded portion and so that the output leads extend on a lower surface of the lower base folded portion for contacting relation with the wiring in the step region;
further comprising, for each of the plural packages:
input leads which are provided on the insulative base and which are connected to the driver integrated circuit (IC), the input leads comprising first input leads and second input leads which are respectively provided on the insulative base so as to extend bilaterally outwardly generally perpendicularly to a direction in which the output leads extend from the driver integrated circuit (IC),
connecting slits which are respectively provided on parts of the insulative base where the first and second input leads are provided, respectively, such that the first and second input leads are exposed in the connecting slits.

Shigeki TAMAI
Serial No. 09/472,816

15. (Previously Presented) The apparatus of claim 14, wherein the connecting slits of adjacent ones of the plural packages are situated in overlapping relation.

16. (Currently Amended) ~~The apparatus of claim 12,~~ A liquid crystal panel module comprising:

a first substrate;

a second substrate;

liquid crystals sealed between the first substrate and the second substrate;

an edge of the first substrate protruding beyond the second substrate to form a step region of the first substrate;

wiring for driving the liquid crystals being provided in the step region;

plural driver integrated circuit (IC) packages situated in the step region, the plural packages each comprising:

an insulative base;

a driver integrated circuit (IC) mounted on the insulative base;

output leads which are provided on the insulative base and which are connected to the driver integrated circuit (IC);

a bending slit provided on part of the insulative base where the output leads are provided such that the output leads remain in the bending slit;
the insulative base being folded substantially one hundred eighty degrees at the bending slit into a folded configuration to define an upper base folded portion which overlies a lower base folded portion, the base in the folded configuration being oriented so that the driver integrated circuit (IC) is mounted on an upper surface of the upper base folded portion and so that the output leads extend on a lower surface of the lower base folded portion for contacting relation with the wiring in the step region;

further comprising, for each of the plural packages:

input leads which are provided on the insulative base and which are connected to the driver integrated circuit (IC), the input leads comprising first input leads and second

Shigeki TAMAI
Serial No. 09/472,816

input leads which are respectively provided on the insulative base so as to extend bilaterally outwardly generally perpendicularly to a direction in which the output leads extend from the driver integrated circuit (IC),

a connecting slit provided on one part of the insulative base where the first input leads are provided such that the first input leads are exposed in the connecting slit, and

a resist-uncoated connecting portion is provided on another part of the insulative base where the second input leads are provided.

17. (PREVIOUSLY PRESENTED) The apparatus of claim 12, wherein the insulative base is a base tape.

18. (PREVIOUSLY PRESENTED) The apparatus of claim 12, wherein the insulative base is a flexible board.

19. (PREVIOUSLY PRESENTED) A liquid crystal panel module in which the liquid-crystal-panel driver IC packages as defined in Claim 1 are assembled so as to make an array, the liquid crystal panel module comprising:

a first glass substrate and a second glass substrate laminated together with a specified spacing so as to seal liquid crystals therebetween, and to form, on at least one edge side of the first, second glass substrates, a step region for setting therein the liquid-crystal-panel driver IC packages in which each insulative base is bent at the bending slit and folded, wherein the liquid-crystal-panel driver IC packages are provided only on a surface of the first glass substrate of the step region; and

liquid-crystal driving wiring which is provided in the step region of the first, second glass substrates, and to which the output leads of the individual liquid-crystal-panel driver IC packages disposed so as to be arrayed along the step region are electrically connected.

Shigeki TAMAI
Serial No. 09/472,816

20. (PREVIOUSLY PRESENTED) The liquid crystal panel module according to Claim 19, wherein

a height of the liquid-crystal-panel driver IC packages from the surface of the first glass substrate is not higher than that of a surface of the second glass substrate opposite to a surface of the second glass substrate attached to the first glass substrate.